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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,658	12/17/2001	Makoto Nakamura	217149US8	8519
22850	7590	08/19/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			FOX, JAMAL A	
			ART UNIT	PAPER NUMBER
			2664	

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/015,658	NAKAMURA ET AL.	
	Examiner	Art Unit	
	Jamal A. Fox	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2001.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15 is/are rejected.
- 7) ☒ Claim(s) 14 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/17/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/015,658.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claim 15 is objected to because of the following informalities: Claim 15 line 9, after "a", --specified-- is spelled incorrectly. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 6, 7, 11 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Gaddis et al. (U.S. Patent Application Publication No. 2002/0069292).

Referring to claim 1, Gaddis et al. discloses a data relay method of establishing a logical tunnel within a specified backbone (Backbone, Fig. 2, Fig. 3(a) and Fig. 3(c) and respective portions of the spec.) network disposed between networks (ISP #1 and ISP #2, Fig. 3(a) and respective portions of the spec.), and relaying data having a specified format (Fig. 2 ref. sign 260 and respective portions of the spec.) between the networks through the tunnel, said method comprising:

a determining step of determining a type of a destination (destination, [0030], [0031], [0035] and [0037]) address at the Data Link layer from the data loaded from the

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network into the backbone (Backbone, Fig. 2, Fig. 3(a) and Fig. 3(c) and respective portions of the spec.) network;

a transmitting (transmitted, [0018], [0053] and [0059]) step of transmitting the data to the tunnel as a relay destination (destination, [0030], [0031], [0035] and [0037]) that is determined for each address when the determined type is an address for an individual; and

an identifying/transmitting step of identifying the relay destination tunnel from data contents set in correlation with the destination (destination, [0030], [0031], [0035] and [0037]) address at the Network layer when the type is an address for broadcast, and of transmitting the data to the identified relay destination tunnel.

Referring to claim 2, Gaddis et al. discloses the data relay method according to claim 1 further comprising:

a determining step of determining whether a relay system of data to a destination is the one performed at the Data Link layer (layer 2, [0033]) when the data is to be transmitted to the relay destination tunnel;

a removing (stripped, [0031] and [0038]) step of removing header for the Data Link layer from the specified format when the relay system is not the one performed at the Data Link layer; and

an adding (added, [0030]) step of adding header for the Data Link layer to the data when the data is received through the relay destination tunnel.

Referring to claim 6, Gaddis et al. discloses a data relay apparatus, disposed within a specified backbone network (Backbone, Fig. 2, Fig. 3(a) and Fig. 3(c) and

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respective portions of the spec.) interposed between networks (ISP #1 and ISP #2, Fig. 3(a) and respective portions of the spec.), which relays data having a specified format (Fig. 2 ref. sign 260 and respective portions of the spec.) from the network through a logical tunnel established within the backbone network, said apparatus comprising:

a storage unit (Client Site A and Client Site B, Figures 3(a) and 3(c) and respective portions of the spec.) that stores information for a relay destination tunnel in correlation with a destination address at the Network layer of the data;

a type determination unit that determines a type of destination (destination, [0030], [0031], [0035] and [0037]) address at the Data Link layer of the data loaded from the network; and

a transmission unit (edge router, [0053]) that transmits the data to the relay destination tunnel corresponding to the destination (destination, [0030], [0031], [0035] and [0037]) address at the Network layer stored in said storage unit when the type of the destination address is a broadcast address.

Referring to claim 7, Gaddis et al. discloses the data relay apparatus according to claim 6, wherein said storage unit further stores information for a relay destination tunnel and hierarchical information (Fig. 1 and the table on Fig. 3(c)) for a relay system in correlation with a destination (destination, [0030], [0031], [0035] and [0037]) address at the Network layer of the data,

said data relay apparatus further comprising:

a system determination unit that determines a relay system of data to a transmission destination (destination, [0030], [0031], [0035] and [0037]) contents stored in said storage unit when the data is to be transmitted to the relay destination tunnel;

a removal (stripped, [0031] and [0038]) unit that removes header for the Data Link layer from the specified format when the determined relay system is not the one performed at the Data Link layer; and

an adding (added, [0030]) unit that adds the header for the Data Link layer to the data and relays the data when receiving the data through the relay destination tunnel.

Referring to claim 11, Gaddis et al. discloses a data relay system having a logical tunnel established within a specified backbone (Backbone, Fig. 2, Fig. 3(a) and Fig. 3(c) and respective portions of the spec.) network disposed between networks, which relays data having a specified format (Fig. 2 ref. sign 260 and respective portions of the spec.) between the networks through the tunnel, said system having a data relay apparatus within the backbone (Backbone, Fig. 2, Fig. 3(a) and Fig. 3(c) and respective portions of the spec.) network,

said data relay apparatus, disposed within a specified backbone (Backbone, Fig. 2, Fig. 3(a) and Fig. 3(c) and respective portions of the spec.) network interposed between networks, which relays data having a specified format (Fig. 2 ref. sign 260 and respective portions of the spec.) from the network through a logical tunnel established within the backbone (Backbone, Fig. 2, Fig. 3(a) and Fig. 3(c) and respective portions of the spec.) network, said apparatus comprising: a storage unit (Client Site A and Client Site B, Figures 3(a) and 3(c) and respective portions of the spec.) that stores

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information for a relay destination tunnel in correlation with a destination address at the Network layer of the data; a type determination unit that determines a type of a destination (destination, [0030], [0031], [0035] and [0037]) address at the Data Link layer of the data loaded from the network; and a transmission unit (edge router, [0053]) that transmits the data to the relay destination tunnel corresponding to the destination address at the Network layer stored in said storage unit when the type of the destination address is a broadcast address,

wherein the data is transmitted (transmitted, [0018], [0053] and [0059]) to the relay destination tunnel corresponding to the broadcast address at the Data Link layer of the data loaded from the network to said data relay apparatus.

Referring to claim 12, Gaddis et al. discloses the data relay system according to claim 11, wherein said storage unit further stores hierarchical information (Fig. 1 and the table on Fig. 3(c)) for a relay system together with the information for the relay destination tunnel in correlation with the destination (destination, [0030], [0031], [0035] and [0037]) address at the Network layer of the data, and

said data relay apparatus further comprises:

a system determination unit that determines a relay system of data to a transmission destination (destination, [0030], [0031], [0035] and [0037]) from the data contents stored in said storage unit when the data is to be transmitted to the relay destination tunnel;



a removal (stripped, [0031] and [0038]) unit that removes header for the Data Link layer from the specified format when the determined relay system is not the one performed at the Data Link layer; and

an adding (added, [0030]) unit that adds the header for the Data Link layer to the data and relays the data when receiving the data through the destination tunnel.

4. Claims 3, 8 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Tsao (U.S. Patent Application Publication No. 2002/0080819).

Referring to claim 3, Tsao discloses a data relay method of establishing a logical tunnel (tunneling, [0008] and [0009]) within a specified public network (Figures 5, 6, 7, 9 and 10) disposed between a specified backbone (backbone, [0008]) network and host (host, [0007], [0008], [0024] and [0036]) devices, and relaying data between the backbone (backbone, [0008]) network and said host (host, [0007], [0008], [0024] and [0036]) devices through the tunnel (tunneling, [0008] and [0009]), said method comprising:

a first determining step of monitoring contents of the data loaded from said host (host, [0007], [0008], [0024] and [0036]) device and determining whether the data is user data (user data, [0008]);

a first relaying (carrying, [0008]) step of relaying data through the tunnel when the data is the user data (user data, [0008]); and

a control processing step of performing control processing on the data without being routed through the tunnel (tunneling, [0008] and [0009]) when the data is a predetermined control packet (control packet, [0037]).



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Referring to claim 8, Tsao discloses a data relay apparatus, disposed within a specified public network interposed between a specified backbone (backbone, [0008]) network and host devices, which relays data between the backbone (backbone, [0008]) network and said host devices through a logical tunnel (tunneling, [0008] and [0009]) established within the public network (Figures 5, 6, 7, 9 and 10), said apparatus comprising:

- a first type determination unit that monitors contents of the data loaded from said host (host, [0007], [0008], [0024] and [0036]) device and determines a type of the data (user data, [0008]);

- a first relay unit that relays (carrying, [0008]) data through the tunnel when the type of the data is targeted for a single traffic; and

- a control processing unit that performs control processing on the data without being routed through the tunnel when the data is a predetermined control packet (control packet, [0037]).

Referring to claim 13, Tsao discloses a data relay system, having a logical tunnel (tunneling, [0008] and [0009]) established within a specified public network (Figures 5, 6, 7, 9 and 10) interposed between a specified backbone (backbone, [0008]) network and host (host, [0007], [0008], [0024] and [0036]) devices, which relays data between the backbone (backbone, [0008]) network and said host (host, [0007], [0008], [0024] and [0036]) devices through the tunnel (tunneling, [0008] and [0009]),

said system having a data relay apparatus within the public network (Figures 5, 6, 7, 9 and 10),

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said data relaying apparatus, disposed within a specified public network (Figures 5, 6, 7, 9 and 10) interposed between a specified backbone (backbone, [0008]) network and host devices, which relays (carrying, [0008]) data between the backbone (backbone, [0008]) network and said host devices through a logical tunnel (tunneling, [0008] and [0009]) established within the public network, said apparatus comprising: a first type determination unit that monitors contents of the data loaded from said host device and determines a type of the data (user data, [0008]); a first relay unit that relays data through the tunnel (tunneling, [0008] and [0009]) when the type of the data is targeted for a single traffic, and a control processing unit that performs control processing on the data without being routed through the tunnel (tunneling, [0008] and [0009]) when the data is a predetermined control packet (control packet, [0037]),

wherein, the data loaded from said host (host, [0007], [0008], [0024] and [0036]) device is the predetermined control packet (control packet, [0037]), the control processing is performed on the data without being routed through the tunnel (tunneling, [0008] and [0009]).

5. Claims 5, 9, 10 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Morishige et al. (U.S. Patent Application Publication No. 2002/0026482).

Referring to claim 5, Morishige et al. discloses a data relay method of relaying data between a specified backbone (backbone, Fig. 1) network and host devices through a public network, said method comprising:

an address converting (converting, [0041]) step of converting a destination of data transmitted from the backbone network to a specific IP address within the public network, to a broadcast address of a particular group previously set;

a forwarding (forwarding, [0076]) step of forwarding the data, whose address has been converted, to a multicast (multicast, [0076]) network within the public network; and

a distributing (transmitting, [0041]) step of distributing the forwarded data to said host devices.

Referring to claim 9, Morishige et al. discloses a data relay apparatus, disposed within a specified public network interposed between a specified backbone (backbone, Fig. 1) network and host devices, which relays data between the backbone (backbone, Fig. 1) network and said host devices through a logical tunnel established within the public network, said apparatus comprising:

a second type determination unit (CPU, Fig. 2 ref. sign 31 and respective portions of the spec.) that monitors contents of the data loaded from the backbone network and determines a type of the data;

a second relay unit (switch, Fig. 2 ref. sign 39 and respective portions of the spec.) that relays the data through the tunnel when the type of the data is targeted for a single traffic; and

a storage control unit (memory, Fig. 2 ref. sign 32 and respective portions of the spec.) that stores the data when the type of the data is targeted for broadcast to a particular group.

Referring to claim 10, Morishige et al. discloses a data relay apparatus, disposed within a specified public network (Fig. 1) interposed between a specified backbone (backbone, Fig. 1) network and host devices, which relays data between the backbone (backbone, Fig. 1) network and said host devices through a logical tunnel established within the public network (Fig. 1), said apparatus comprising:

an address conversion unit (gateway 3c, [0041]) that converts a destination of data transmitted to a specific IP address within the public network, to a broadcast (multicast, [0041]) address of a particular group previously set;

a forwarding unit (push server 1b, [0076]) that forwards the data, whose address has been converted, to a multicast network logically constituted within the public network; and a distribution unit that distributes the forwarded data to said host devices.

Referring to claim 15, Morishige et al. discloses a data relay system, having a logical tunnel established within a specified public network (Fig. 1) interposed between a specified backbone (backbone, Fig. 1) network and host devices, which relays data between the backbone (backbone, Fig. 1) network and said host devices through the tunnel,

said system having a data relay apparatus within the public network (Fig. 1),

said data relaying apparatus, disposed within a specified public network (Fig. 1) interposed between a specified backbone (backbone, Fig. 1) network and said host devices through a logical tunnel established within the public network (Fig. 1), said apparatus comprising: an address conversion unit (gateway 3c, [0041]) that converts a destination of data transmitted to a specific IP address within the public network (Fig. 1),

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to a broadcast address of a particular group previously set; a forwarding unit (push server 1b, [0076]) that forwards the data, whose address has been converted, to a multicast network logically constituted within the public network; and a distribution unit (IP NETWORK INTERFACE UNIT, Fig. 2) that distributes the forwarded data to said host devices,

wherein the data whose address has been converted (converting, [0041]) is distributed to said host devices.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 3 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Jorgensen (U.S. Patent Application Publication No. 2002/0099854).

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Referring to claim 3, Jorgensen discloses a data relay method of establishing a logical tunnel (tunnel, [0060]) and [0357]) within a specified public network disposed between a specified backbone network (public network, [0270]) and host (host, [0357]) devices, and relaying data between the backbone network (public network, [0270]) and said host (host, [0357]) devices through the tunnel (tunnel, [0060]) and [0357]), said method comprising:

- a first determining step of monitoring contents of the data loaded from said host (host, [0357]) device and determining whether the data is user data (user data, [0227], [0254]);

- a first relaying step of relaying data through the tunnel (tunnel, [0060]) and [0357]) when the data is the user data (user data, [0227], [0254]); and

- a control processing step of performing control processing on the data without being routed through the tunnel (tunnel, [0060]) and [0357]) when the data is a predetermined control packet (control packet, [0416]).

Referring to claim 4, Jorgensen discloses the data relay method according to claim 3 further comprising:

- a second determining step of monitoring (monitoring, [0063], [0339] and [0609]) data loaded from the backbone network (public network, [0270]) and determining whether the data is targeted for a single traffic;

- a second relaying step of relaying (forwarding, [0345] and [0352]) the data through the tunnel when the data is targeted for the single traffic; and

a storage (stored, [0453]) controlling step of storing (storing, [0459]) data as the target to be controlled when the data is the predetermined data as a target to be controlled,

wherein, in the control (control, [0130]) processing step, the control processing is performed on the stored data as a target to be controlled.

8. Claim 5 is rejected under 35 U.S.C. 102(e) as being anticipated by Oppenheimer et al. (U.S. Patent No. 5,388,213).

Referring to claim 5, Oppenheimer et al. discloses a data relay method of relaying data between a specified backbone network (Backbone Network, Fig. 8 ref. sign 830 and respective portions of the spec.) and host devices through a public network, said method comprising:

an address converting step of converting (transformed, col. 19 lines 14-33) a destination of data transmitted from the backbone network to a specific IP address within the public network, to a broadcast address of a particular group previously set;

a forwarding (forwarding, col. 19 lines 15-20) step of forwarding the data, whose address has been converted, to a multicast (multicast, col. 19 lines 14-33) network within the public network; and

a distributing (transmitted, col. 19 lines 20-25) step of distributing the forwarded data to said host devices.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:



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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dillon et al. (U.S. Patent No. 5,968,129).

Referring to claim 1, Dillon et al. discloses a data relay method of establishing a tunnel (tunnelling, col. 7 lines 24-42) within a specified backbone network (Fig. 1, ref. sign 128 and respective portions of the spec.) disposed between networks (Fig. 1 and respective portions of the spec.), and relaying data having a specified format between the networks through the tunnel, said method comprising:

a determining step of determining a type of a destination address (destination address, col. 7 lines 24-42) at the Data Link layer from the data loaded from the network into the backbone network;

a transmitting step of transmitting the data to the tunnel (tunnelling, col. 7 lines 24-42) as a relay destination that is determined for each address when the determined type is an address for an individual; and

an identifying/transmitting step of identifying the relay destination tunnel from data contents set in correlation with the destination address (destination address, col. 7 lines 24-42) at the Network layer when the type is an address for broadcast, and of transmitting the data to the identified relay destination tunnel, but fails to teach of the tunnel being a logical tunnel. However, tunneling is disclosed in (col. 7 lines 24-42) and a header is part of the user's view of the way the data is organized. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was

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made to have included that the tunnels were logical tunnels to the invention of Dillon et al. because the headers are logical as suggested by Dillon et al. (col. 7 lines 24-42).

***Allowable Subject Matter***

11. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

12. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(571) 273-8300, (for formal communications intended for entry)

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamal A. Fox whose telephone number is (571) 272-3143. The examiner can normally be reached on Monday-Friday 6:30 AM - 5:00 PM.

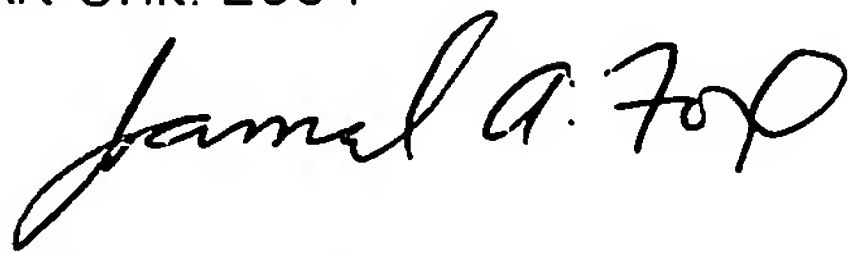
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to 2600 Customer Service whose telephone number is (571) 272-2600.

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A handwritten signature in black ink, appearing to read "Jamal A. Fox". The signature is fluid and cursive, with the first name "Jamal" being more prominent.

Jamal A. Fox

A handwritten signature in black ink, appearing to read "Wellington Chin". The signature is fluid and cursive, with the first name "Wellington" being more prominent.

WELLINGTON CHIN  
REVISORY PATENT EXAMINER